

Work Order ID 85434

85434

Page 1

Item ID: D6101-003

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle Billet, 7075

Start Date: 07/06/2012 Start Qty: 40.00

40

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/06/07 Tooling:

Date:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6101	Rev B								
100	PURCHASING	0.00							
100									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>17167</u>								
	a) Description: Aluminum billet								
	b) 7.875" x 6.250" x 2.00" thick								
	c) Tolerance on all dimensions are +0.030"/-0.000"								
	d) Grain direction along 7.875" length								
	e) Material: 7075-T7351 (QQ-A-250/12)								
	f) Material certification required								
110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									
Packaging	Memo	0.00							
Packaging	Ensure material certification is attached								

CL 12/06/08 40

40x 12-6-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 85434

85434

Page 2

June-07-12 3:15:19 PM

Item ID: D6101-003

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle Billet, 7075

Start Date: 07/06/2012 Start Qty: 40.00

40

Cust Item ID:

Required Date: 14/06/2012 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120 QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6101

130

Identify as per dwg & Stock Location: MAT42 0.00

130

Packaging

Memo

0.00

Packaging

140

QC21- Final Inspection - Work Order Release 0.00

140

QC

Memo

0.00

Quality Control

12/16/15
mf 12-06-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

June-07-12 3:15:23 PM

Page 1

Work Order ID: 85434

85434

Parent Item: D6101-003

D6101-003

Parent Item Name: Saddle Billet, 7075

Start Date: 07/06/2012

Required Date: 14/06/2012

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP A: 01.05.04New IssueC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-003P		Purchased	No			110	Each	0.0000	1	40			

D6101-003P

7075-T7351 2X6.25X7.875

**

15 x 8p 12-6-12.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

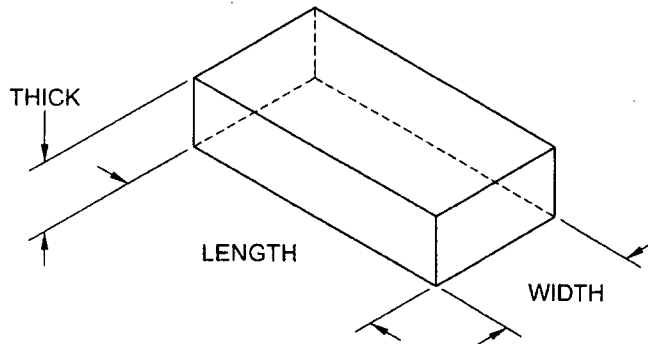
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

SPECIFICATION CONTROL DRAWING



SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 85134MCS
 12/06/07

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
 09/07/15/WP

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:1346880

Expédié de / Ship From:		Vendu à / Sold To:		Expédié à / Ship To:	Livré à / Deliver To:
A. M. Castle & Co. (Canada) Inc. MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		WILL CALL-MONTREAL 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	WILL CALL-MONTREAL 835 SELKIRK AVENUE POINTE CLAIRE, QC H9R 3S2 CA
Date d'expédition / Date Shipped	F.O.B.	Modalités de transport / Freight Terms		Transporteur / Carrier	No du Bon de connaissance / BOL No
11-JUN-2012	ORIGIN	Prepaid		LOCAL_FLEET	1346880-4

Détails d'expédition / Shipment Details	Destination finale / Final Destination Branch - MON
--	--

N° de commande / Order No	N° de ligne Line No	N° d'article / Item No	Description	
2163169✓	2	752237.MO	2.0000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.875")) X 7.875 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.875")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/12	
N° de bon de commande / Purchase Order No	Nbre de pièces / Part Number		Qté commandée / Ordered Qty	Qté Facturée / Invoice Qty
WILL ADVISE	YOUR ITEM NUMBER: D6101-003		40.00 PCS	40.0000 PCS

Détails / Details							
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code méc / Mech Id	Pièce s / PCS	Largeur (Pouce)/ Width (IN)	Longueur (Pouce)/ Length (IN)	Qté expédiée/ Shipped Qty(LBS)
117620562		743835A1 ✓		1 ✓			10.16
117620562		213721 ✓		39 ✓			396.27

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des Etats-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.
These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.
Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 11-JUN-2012 02:38:18 PM

12/06/14

2015-10-10



Castle Metals®

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 2 of 2

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.		
Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative:	Date:	Name:



CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS
67216

A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL
60523

A M CASTLE 103601 4776

INCLUSION SERIAL#: 20120103103601 PAGE 1 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12	
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.	

CERTIFICATION
"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC
Rt 2 South, Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

Rodney J. Felty
Rodney J. Felty - Laboratory Manager

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS											
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.										
			T7351																	
213721	LT	2	72.8	73.0	62.2	62.3	12.0	12.0	40.1	40.2										
All material contained in lot 213721 was cast and manufactured in the USA.																				
213731	LT	2	73.1	73.2	62.3	62.5	12.0	12.0	40.6	40.8										
All material contained in lot 213731 was cast and manufactured in the USA.																				
213751	LT	2	73.8	74.2	63.3	63.7	11.5	11.5	39.7	39.9										
All material contained in lot 213751 was cast and manufactured in the USA.																				
ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS																				
GAMPS 9101 100% SONIC MINUS DEAD ZONE CLASS A																				
AMS4078G,ASTM-B209-10,MMS159P,CMMP025;AMC CA-15413A R																				
CHEM COMPO	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS		
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.	
		SEE ACTUAL CHEMICAL COMPOSITION																		
ALUMINUM REMAINDER																				





CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

4/19/14
12/06/14
mf

A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS

A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL

67216

60523

A M CASTLE 103601 4776 INCLUSION SERIAL#: 20120103103601 PAGE 2 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC Rt 2 South, Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA <i>Rodney J. Felty</i> Rodney J. Felty - Laboratory Manager
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500	
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL						
CUSTOMER SPECIFICATION AMS-QQ-A-250/12						
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12		
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.		

COND % IACS

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		MIN	MAX		
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.				
			AMS STD 2154, PS21211L, ASTM B594, BSS 7055									





CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS

A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL

67216

60523

A M CASTLE 103601 4776 INCLUSION SERIAL#: 20120103103601 PAGE 3 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421	
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL					
CUSTOMER SPECIFICATION AMS-QQ-A-250/12					
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12	
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.	

CERTIFICATION
"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."

Constellium Rolled Products Ravenswood, LLC
Rt 2 South, Century Road
P.O. BOX 68
RAVENSWOOD, WV 26164 USA

Rodney J. Felty
Rodney J. Felty - Laboratory Manager

COND % IACS

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		MIN		MAX										
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.													
ACTUAL CHEMICAL COMPOSITION																					
213721	C		SI= 0.07	FE= 0.14	CU= 1.38	MN= 0.04	MG= 2.60														
			CR= 0.20	ZN= 5.61	TI= 0.02	ZR= 0.01															
			OTHERS-EACH: .05 MAX.		OTHERS TOTAL: .15 MAX.		AL REMAINDER														
213731	C		SI= 0.07	FE= 0.14	CU= 1.38	MN= 0.04	MG= 2.60														
			CR= 0.20	ZN= 5.61	TI= 0.02	ZR= 0.01															
			OTHERS-EACH: .05 MAX.		OTHERS TOTAL: .15 MAX.		AL REMAINDER														
213751	C		SI= 0.07	FE= 0.15	CU= 1.43	MN= 0.05	MG= 2.63														
			CR= 0.20	ZN= 5.52	TI= 0.03	ZR= 0.01															
			OTHERS-EACH: .05 MAX.		OTHERS TOTAL: .15 MAX.		AL REMAINDER														
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS			
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.		
		SEE ACTUAL CHEMICAL COMPOSITION																			
																				ALUMINUM REMAINDER	





CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

A M CASTLE CO
3050 SO HYDRAULIC
WICHITA KS

A M CASTLE
1420 KENSINGTON ROAD, SUITE 220
OAK BROOK IL

67216

60523

A M CASTLE 103601 4776

INCLUSION SERIAL#: 20120103103601 PAGE 4 OF 4

CUSTOMER PURCHASE ORDER NO. & ITEM 135513				Constellium ORDER NO. 050-981421		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC Rt 2 South, Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA <i>Rodney J. Felty</i> Rodney J. Felty - Laboratory Manager
ALLOY 7075	CLAD. 00	TEMPER T7351	GAUGE 2.00000	WIDTH 48.500	LENGTH 144.500	
ITEM ORDERED DIST. AEROSPACE/MILITARY SPEC PLATE, SAWED MILL						
CUSTOMER SPECIFICATION AMS-QQ-A-250/12						
PART NUMBER 752237		B/L NUMBER 103600		DATE SHIPPED 01/05/12		
WEIGHT SHIPPED 12,865		NO. OF PIECES 9		GOVT. CONTRACT NO.		

COND % IACS

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		MIN		MAX								
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.											
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.																			
CHEMISTRY BY OES: ARKSPARK																			
CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT.																			
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399.																			
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557.																			
DUNS Number: 090570149; CAGE Code: 1YWL9																			
Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.																			
"END OF CERTIFICATION"																			
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
		SEE ACTUAL CHEMICAL COMPOSITION																	
		ALUMINUM REMAINDER																	



SHIP TO: A M CASTLE & CO 3050 SOUTH HYDRAULIC WICHITA, KS 67216
SOLD TO: AM CASTLE & CO- SOLD TO 1420 KENSINGTON RD SUITE 220 OAK BROOK, IL 60523

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4254286

CUSTOMER PO NUMBER: 142608	WORK PACKAGE:	CUSTOMER PART NUMBER: 752237	SHIP RUN/LOAD: 102241/21	GOV'T CONTRACT NUMBER:		
KAISER ORDER NO: 1127129	LINE ITEM: 2	SHIP DATE: 13-FEB-2012	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: Sawed Plate
WEIGHT SHIPPED: 4276 LB	QUANTITY: 3 PCS EST.	B/L NUMBER: 2035760	GAUGE: 2.0000 IN	DIAMETER/WIDTH: 48.500 IN	LENGTH: 144.500 IN	

MHU 1557443: LOT 743835A1: 1 pieces;
MHU 1560416: LOT 744549A7: 1 pieces;
MHU 1563058: LOT 744564A6: 1 pieces;

Certified Specifications

AMS 4078/RevJ
ASTM B 209/Rev10
BSS 7055/RevA
DPS 4.713/RevAH
MMS 159/RevR

AMS-QQ-A-250/12
ASTM B 594/Rev09
CMMP 025/RevU
GAMPS 9101/RevB
PS 21211/RevL

AMS-STD-2154/Rev98
BAC 5439/RevH
CSTI 006/RevD
GSS16100/RevG/Amd1

Test Code: 4297

Test Results

Lot: 743835A1 Cast 445 Drop 42 Ingot 4 Parent Lot: 572825A8 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.2 : 73.2 (505 : 505)	62.9 : 63.1 (434 : 435)	12.4 : 12.5

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.8 Min	40.9 Max
(MS/M) :	23.7 Min	23.7 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.18	1.4	0.03	2.4	0.20	5.5	0.03	0.01	0.01	TOT 0.05

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4254286

Lot: 744549A7 Cast 445 Drop 78 Ingot 2 Parent Lot: 744192A6 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.5 : 74.0 (507 : 510)	62.3 : 62.9 (430 : 434)	12.5 : 12.8

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.7 Min	40.9 Max
(MS/M) :	23.6 Min	23.7 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.07	0.16	1.4	0.03	2.5	0.20	5.8	0.03	0.01	0.01	TOT 0.05

Lot: 744564A6 Cast 449 Drop 08 Ingot 3 Parent Lot: 572890A2 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	72.7 : 72.8 (501 : 502)	61.6 : 61.8 (425 : 426)	11.9 : 12.1

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.6 Min	40.6 Max
(MS/M) :	23.5 Min	23.5 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.23	1.5	0.05	2.5	0.20	5.7	0.02	0.01	0.01	TOT 0.06

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

TEST NOTES

Metal represented by this test report was 100% immersion ultrasonically tested from one side and meets the Class A and Class B requirements of all specifications referenced on this test report.

KAISER ALUMINUM

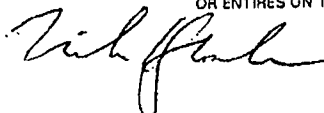
Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4254286

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTIRE ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.



MIKE KLOCKE, LABORATORIES SUPERVISOR

AEROS
Page 3 of 3

pace
100 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID- PO17167

Purchase Order Date 6/08/12

PO Print Date 6/08/12

Page Number 1 of 2

Order From :

METAUX CASTLE

A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
C4

VC-MET001

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

514 694 9575

514 695 3281

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
6/10/12

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
	D6101-001P	7075-T7351 2X6X6.25	6/13/12 Yes	40.00 Each	Yours ppd	\$36.0000	\$1,440.00

Special Inst:

AS PER DWG D6101 REV. B
B85433
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 6.00" X 6.250" X 2.00" THICK
GRAIN DIRECTION ALONG 6.00"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000"

Sp 12-6-12.

D6101-003P

7075-T7351 2X6.25X7.875

6/13/12
Yes

40.00
Each
Yours ppd

\$48.0000

\$1,920.00

Special Inst:

AS PER DWG D6101 REV. B
B85434
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 7.875" X 6.250" X 2.00" THICK
GRAIN DIRECTION ALONG 7.875"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000"

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

No substitution or deviation without
consent.

Certificate of Conformity or Material
Certification required- YES NO

Change Nbr: 1

Change Date: 6/08/12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO17167

Purchase Order Date 6/08/12
PO Print Date 6/08/12

Page Number 2 of 2

Order From :

VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	514 694 9575	Requisition Nbr	
Vendor Fax	514 695 3281	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	Destination-Collect

3	D6101-005P ✓	7075-T7351 8.25X5.0X2.5	6/13/12 Yes	30.00 Each	Yours ppd	\$57.9500	\$1,738.50
3	D6101-005P	7075-T7351 8.25X5.0X2.5	6/22/12 Yes	30.00 Each	Yours ppd	\$57.9500	\$1,738.50

Special Inst: AS PER DWG D6101 REV. B
B85429
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 5.00" X 8.250" X 2.50" THICK
GRAIN DIRECTION ALONG 5.00"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000'

4	D6101-007 ✓	Saddle Billet	6/13/12 Yes	30.00 Each	Yours ppd	\$79.2500	\$2,377.50
4	D6101-007	Saddle Billet	6/22/12 Yes	30.00 Each	Yours ppd	\$79.2500	\$2,377.50

Special Inst: AS PER DWG D6101 REV. B
B85432
MATERIAL: 7075-T7351 AS PER QQ-A-
250/12
SIZE: 7.750" X 8.250" X 2.50" THICK
GRAIN DIRECTION ALONG 7.750"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.030"/-0.000'

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

PO Total: \$11,592.00

Change Nbr: 1

Change Date: 6/08/12

No substitution or deviation without
consent.
Certificate of Conformity Material
Certification required YES NO

Chantal Lavoie

From: Desbiens, Marc <mdesbien@amcastle.com>
Sent: June 8, 2012 1:19 PM
To: Chantal Lavoie
Subject: RE: QUOTE

Hi Chantal,

price & delivery on material.

D6101-001 X 40	\$ 36.00 pce	stock	
D6101-003 X 40	\$ 48.00 pce	stock	
D6101-005 X 60	required asap	\$ 57.95 pce	30 pcs stock – balance 2 weeks
D6101-007 X 60	required asap	\$ 79.25 pce	30 pcs stock – balance 2 weeks
D6102-013 X 40	required asap	\$ 34.90 pce	10 days

Thanks

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